29. A method for screening for a modulator of MAP kinase signal transduction comprising:

(a) contacting a cell expressing a TAO polypeptide or variant thereof and a MEK polypeptide with an agent; and

(b) determining the level of MEK activation,

wherein detecting a change in the level of MEK activation in said contacted cell relative to a cell not contacted with said agent indicates that said agent is a modulator.

30. The method of claim 28 or 29, wherein said TAO is selected from the group consisting of TAO1, TAO2, and ceTAO.

31. The method of claim 28 or 29, wherein said TAO is a TAO variant.

32. The method of claim 31, wherein said TAO variant comprises the catalytic domain.

33. The method of claim 32, wherein said TAO variant is selected from the group consisting of:

(a) amino acid residues 1-320 of TAO1;

(b) amino acid residues 1-416 of TAO1;

(c) amino acid residues 15-285 of TAO1;

(d) amino acid residues 1-320 of TAO2;

(e) amino acid residues 1-416 of TAO2;

(f) amino acid residues 15-285 of TAO2;

(g) amino acid residues 1-358 of ceTAO;

(h) amino acid residues of 1-454 ceTAO; and

(i) amino acid residues 47-323 of ceTAO.

34. The method of claim 28 or 29, wherein said MEK is selected from the group consisting of MEK1, MEK2, MEK3, MEK4, and MEK6.

35. The method of claim 28 or 29, wherein said modulator increases MAP kinase signal transduction.

36. The method of claim 28 or 29, wherein said modulator decreases MAP kinase signal transduction.

37. The method of claim 28 or 29, wherein said MEK activation is indicated by MEK phosphorylation.

38. The method of claim 37, wherein a decrease in MEK phosphorylation indicates a decrease in MAP kinase signal transduction.

39. The method of claim 37, wherein an increase in MEK phosphorylation indicates an increase in MAP kinase signal transduction.

40. The method of claim 28 or 29, wherein said agent is an antibody or antigen-binding fragment thereof.

41. The method of claim 40, wherein said antibody is a monoclonal antibody.

42. The method of claim 29, wherein said agent is an antisense polynucleotide or a ribozyme.

43. The method of claim 29, wherein said MEK activation is indicated by p38 activity.

44. The method of claim 43, wherein said p38 activity is indicated by p38 phosphorylation.

45. The method of claim 44, wherein a decrease in p38 phosphorylation indicates a decrease in MAP kinase signal transduction.

46. The method of claim 44, wherein an increase in p38 phosphorylation indicates an increase in MAP kinase signal transduction.

47. The method of claim 29, wherein said MEK activation is indicated by expression of a reporter gene under the control of a MEK-dependent promoter.

48. The method of claim 47, wherein said MEK-dependent promoter is ATF2.

REMARKS

Claims 28-48 are presently pending. Claims 1-27 have been canceled. Applicants reserve their right to prosecute the subject matter of any canceled claim in one or more continuation, continuation-in-part, or divisional applications. New claims 28-48 have been added and encompass the subject matter of the elected group. No new matter has been added.

A copy of the claims as pending after entry of the foregoing amendment is attached as Appendix A. Applicant respectfully requests entry of the amendments and remarks made herein into the file history of the present application.

THE RESTRICTION REQUIREMENT

The Examiner has required a restriction under 35 U.S.C. § 121 to one of the following Groups:

Group I: Claims 1-15 and 22, drawn to TAO kinases and pharmaceutical compositions comprising the TAO kinases, classified in class 424, subclass 94.5;

Group II: Claims 16-21, and 23 drawn to an isolated polynucleotides encoding TAO polypeptides and pharmaceutical compositions comprising the polynucleotides, classified in class 514, subclass;

Group III: Claim 24, drawn to a method of phosphorylating MEK polypeptides comprising contacting a MEK polypeptide with TAO kinases, classified in class 435, subclass 15;

Group IV: Claim 27, drawn to a method of screening for an agent that modulates signal transduction via MAP kinase pathway comprising contracting a